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ABSTRACT

This book provides student activities organized around a class science project with the Gorilla Foundation. The gorillas featured in the project have been taught American Sign Language. Many of the activities involve the use of the story "Koko's Kitten" by Francine Patterson (New York: Scholastic, Inc., 1985). Sections of the book include: (1) "To the Teacher"; (2) "Matrix Chart"; (3) "Student Activities"; (4) "Bloom's Taxonomy"; (5) "Renzulli's Triad"; (6) "References and Resources"; (7) "ASL Chart"; and (8) "Illustration of Gorilla." (EH)

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A Study Unit to Promote Critical and Creative Thinking

Gorilla Creativity

ED 405 277

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GORILLA CREATIVITY

A Study Unit to Promote Critical and Creative Thinking

Written by Cindi Nolen Allen, Ph. D.

Illustrated by Tracy Blecha

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To the Teacher

In 1976, Dr. Francine Patterson, along with Dr. Ronald Cohn and Barbara Hiller, formed the Gorilla Foundation. It is a non-profit, member-supported organization. Best known for their studies on interspecies communication, the founders dedicated the organization to the preservation, protection, and propagation of the gorilla and other threatened and endangered great apes. The foundation holds trust over Koko and Michael, two Lowland gorillas who have been taught American Sign Language, sometimes referred to as ASL or Ameslan, by Dr. Patterson.

Membership in the foundation is automatic with donations of $25.00 or more ($20.00 for students and seniors) and includes a subscription to the semi-annual journal, *Gorilla*. *Gorilla* features stories and photographs of Koko and Michael, as well as transcripts of conversations with the gorillas published nowhere else. The donations should be sent to the Gorilla Foundation, Box 620-530, Woodside, CA, 94062.

My students chose to collect aluminum cans as a vehicle for raising the $20.00 donation necessary for student membership. It proved to be an excellent project for them. They ended the year with a feeling of accomplishment and are looking forward to receiving their membership information when they return in the fall.

Cindi Nolen Allen

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STUDENT: _____

UNIT TITLE: Gorilla Creativity

SUBJECT AREA: Science

Bloom's Taxonomy Level

ACTIVITIES:		Knowledge	Comprehension	Application	Analysis	Synthesis	Evaluation
1.	Creative Brainstorming			X			
2.	Communicating		X				
3.	Crystal Ball Gazing			X			
4.	Welcome, Koko				X		
5.	What About Michael?					X	
6.	Koko Fun					X	
7.	Happy Birthday					X	
8.	Yum, Yum					X	
9.	All in the Family	X					
10.	Help Wanted					X	
11.	Winner's Circle					X	
12.	Gorilla Troops		X				
13.	Lifestyles		X				
14.	Model Time				X		

GRADE

Renzulli Triad Level

I

II

III

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STUDENT: _____

UNIT TITLE: Gorilla Creativity

SUBJECT AREA: Science

Bloom's Taxonomy Level

ACTIVITIES:

		GRADE	Knowledge	Comprehension	Application	Analysis	Synthesis	Evaluation	Renzulli Triad Level
15.	Monkey Business					X			
16.	Dinner Time		X						
17.	Comparisons					X			
18.	How Is It Helpful?					X			
19.	Gorilla Land						X		
20.	Evaluation Time							X	
21.	Gorilla Talk							X	
22.	Decisions, Decisions							X	
23.	Poor Baby!					X			
24.	School Time					X			
25.	My Gorilla						X		
26.	Who's Who?				X				
27.	In the Wild				X				
28.	Gorilla-Watching							X	

I

II

III

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Creative Brainstorming

Read the story *Koko's Kitten**, by Dr. Francine Patterson. In the story, Koko asked for a kitten. Think of many different and unusual pets Koko could have asked for. List them in the space below.

*Dr. Francine Patterson, *Koko's Kitten*. New York: Scholastic, Inc., 1985.

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Communicating

In the story *Koko's Kitten**, by Dr. Francine Patterson, Koko uses American Sign Language (also called ASL or Ameslan) to say, "Soft, good cat cat." Make a list of all the things that could be as soft as her cat.

*Dr. Francine Patterson, *Koko's Kitten*. New York: Scholastic, Inc., 1985.

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Crystal Ball Gazing

Koko is able to communicate many things through the use of ASL. Predict what might happen if she were suddenly able to talk as you do. What many different things would this enable her to do?

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Welcome, Koko

Pretend that Koko is coming to visit you for a day. Make a schedule of activities for your day with her. Try hard to think of things she would like to do.

MY PLAN FOR A DAY WITH KOKO

Things I will need for the day:

_____

_____

_____

_____

Time schedule of events:

_____

_____

_____

_____

_____

_____

_____

_____

_____

Potential problems:	**Potential solutions:**
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

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What about Michael?

In the story *Koko's Kitten**, by Dr. Francine Patterson, Koko got a pet, but Michael, her gorilla playmate, did not. If you were choosing a pet for Michael, what would it be? Follow the instructions in order to choose the best pet for Michael.

1. Think of pets Michael might like and list them in the "Pet" column.
2. Identify 5 criteria by which to judge the pets and write them in the spaces provided.
3. Judge how each pet meets the criteria and rate each according to the scale.
4. Total the points to find out which pet scores highest.
5. Choose the best pet and give reasons for your choice.

SCALE:
5 = Excellent
4 = Good
3 = Okay
2 = Fair
1 = Poor

PETS	CRITERIA					TOTAL

Best pet: _____

Reasons why: _____

*Dr. Francine Patterson, *Koko's Kitten*. New York: Scholastic, Inc., 1985.

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Koko Fun

Write a limerick* about Koko, the gorilla.

_____

_____

_____

_____

_____

Illustrate your limerick.

*Limericks are humorous 5-lined poems. Lines 1, 2, and 5 rhyme with each other, as do lines 3 and 4. Lines 1, 2, and 5 each have 3 rhythmic parts, or feet. Lines 3 and 4 are shorter; they each contain only 2 feet. Each foot in a limerick contains 1 or 2 unaccented syllables followed by 1 accented syllable.

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Happy Birthday!

Koko's birthday is the fourth of July. Design a birthday card for her.

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Yum, Yum!

Koko enjoys having an afternoon and bedtime snack. Invent a recipe for a treat she would enjoy.

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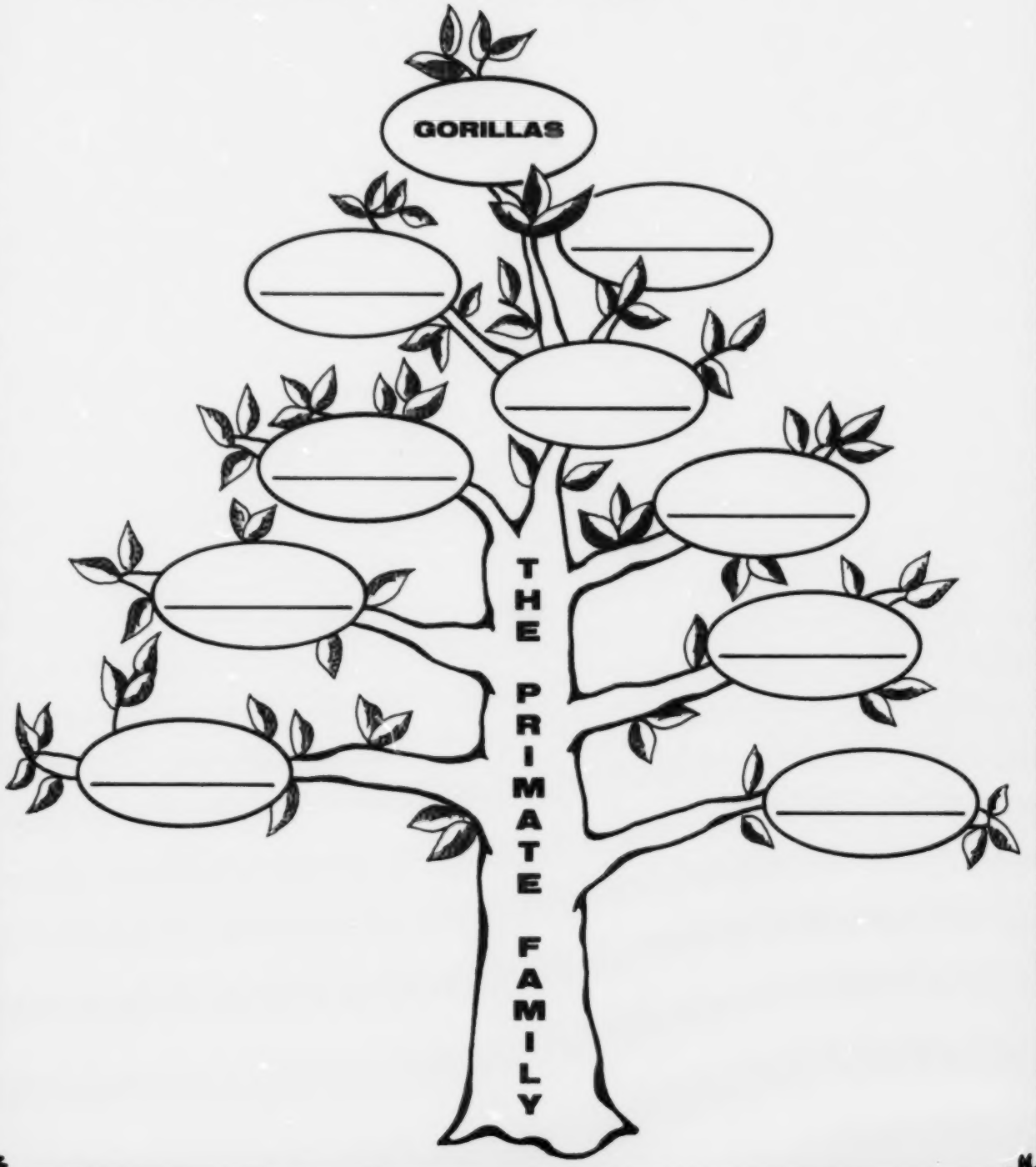
All in the Family

Gorillas are primates. Name other primates.



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Help Wanted

Gorillas are an endangered species. The Mountain gorilla is in the greatest danger. Create a "Save the Gorilla" poster that would help make the public more aware of their plight. Display the posters in your school and community.

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Winner's Circle

Follow the instructions in order to choose the best "Save the Gorilla" poster.

1. List the names of the people who made "Save the Gorilla" posters.
2. Judge how each poster meets the criteria that have been set for you.
3. Rate each according to the scale.
4. Total the points to find out which poster scores highest.
5. Choose the best poster and give reasons for your choice.

SCALE:
5 = Excellent
4 = Good
3 = Okay
2 = Fair
1 = Poor

NAMES / CRITERIA	good message	good illustration	neat	creative	colorful	TOTAL

Best poster: _____

Reasons why: _____

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Gorilla Troops

Explain what a gorilla troop is.

_____

_____

_____

_____

_____

_____

When one member of a gorilla troop displays an emotion, an entire group may also begin a "display." Tell about the things gorillas do when they "display."

_____

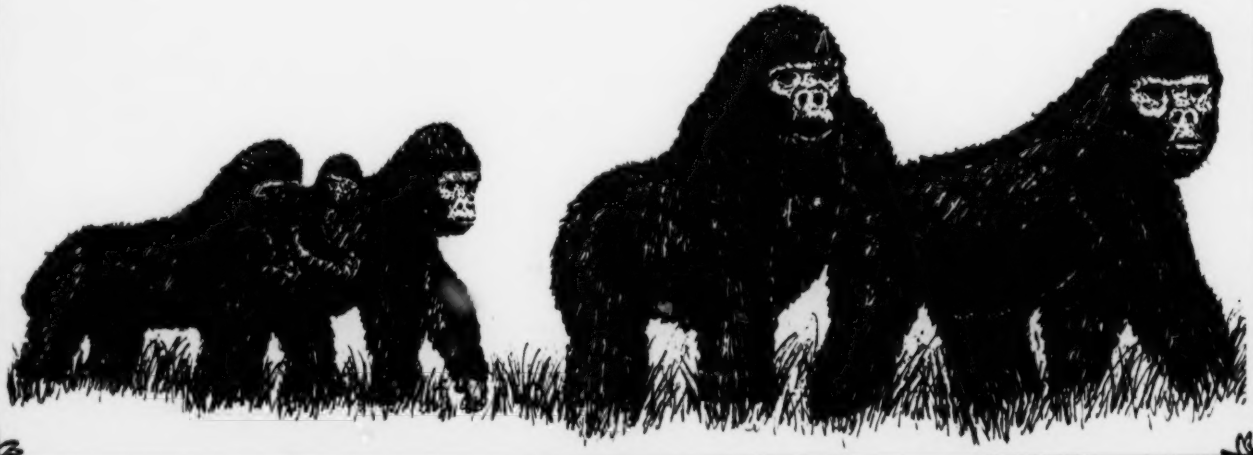
_____

_____

_____

_____

_____



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Lifestyles

Describe the lifestyle of gorillas in the wild. Include information about where they live, what they do each day and night, and how they play.

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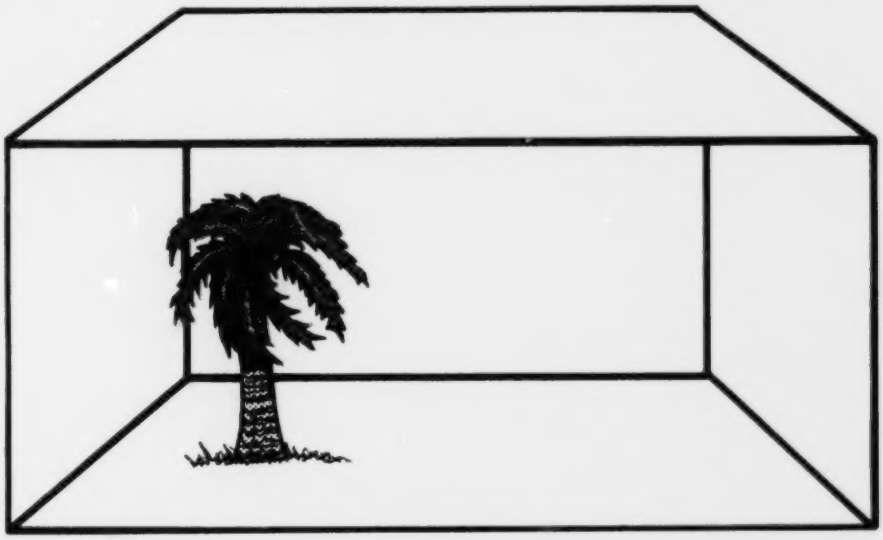
Model Time

Make a diorama showing the environment of a gorilla in the wild.



THINGS YOU MAY NEED FOR YOUR DIORAMA

shoe box

scissors

tape

glue

markers

crayons

construction paper

twigs

clay

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Monkey Business

Differentiate between gorillas and monkeys.

Gorillas	Monkeys

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Dinner Time

Make a list of foods that gorillas eat.

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Comparisons

Compare humans to gorillas. Analyze the ways in which they are alike and different.

HUMANS AND GORILLAS

Alike	Different

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How Is It Helpful?

Diagram and label gorilla body parts. Explain how each is adapted to the environment of a gorilla living in the wild.

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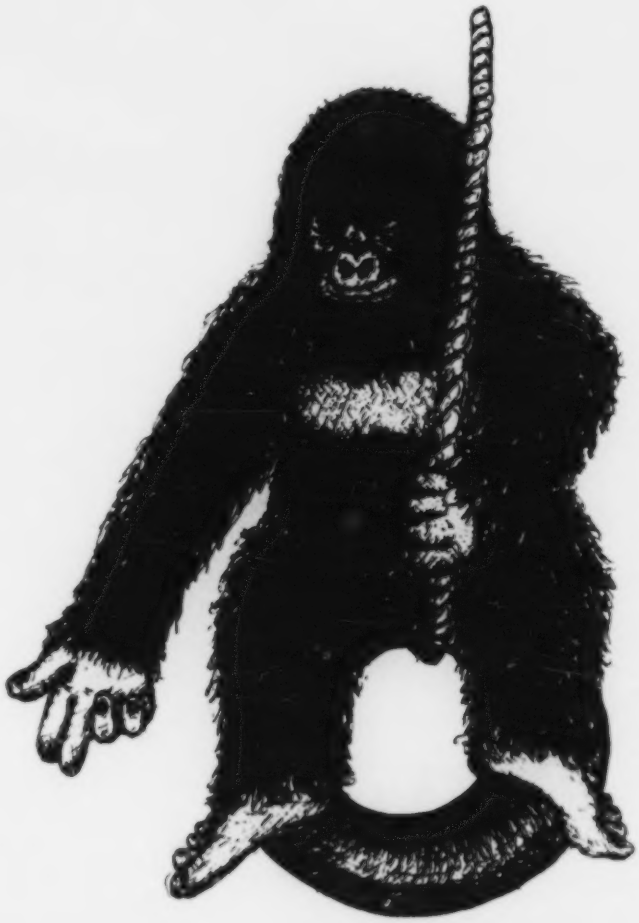
Gorilla Land

Animal psychologists have determined that gorillas in captivity often become bored. When boredom sets in, aggressive behavior may increase. Design a stimulating and pleasant environment for a gorilla in captivity.

Design your environment on drawing paper. Include a variety of activities. Be certain to provide ample room for play. Label each component of your design. Make sure your work is done neatly. Color your design.



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Evaluation Time

Using the following criteria, evaluate the gorilla environment you designed.

	Does the product meet the criteria?	
CRITERIA FOR EVALUATION	**Yes**	**No**
Are there a variety of activities?		
Is there ample space for play?		
Are the components labeled?		
Is the artwork neatly done?		
Is the artwork colorful?		
Would a gorilla enjoy it?		

How might the gorilla environment be improved?

_____

_____

_____

_____

_____

_____

_____

_____

_____

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Gorilla Talk

Some animal behaviorists have been critical of scientists who teach primates (other than humans!) American Sign Language (ASL). What do you think their reasons for such criticisms might be?

_____

_____

_____

_____

Defend or criticize the teaching of ASL to gorillas. Give at least five reasons to support your feelings.

1. _____

_____

_____

2. _____

_____

_____

3. _____

_____

_____

4. _____

_____

_____

5. _____

_____

_____

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Decisions, Decisions!

It has been said that more gorillas have died in captivity than have been born.* Research the reproduction of gorillas in captivity. Decide what factors make it difficult for captive gorillas to have babies.

It is difficult for gorillas to have babies in captivity because. . .

1. _____

2. _____

3. _____

4. _____

5. _____

*Carl Green and William Sanford, *The Gorilla.* Mankato, MN: Crestwood House, 1986.

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Poor Baby!

First-born baby gorillas born in captivity often do not do well with their mothers. Many times they must be taken from their mothers and cared for by humans. Second-born babies born in captivity, however, do much better. Analyze the reasons for this.

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School Time

Pretend that you just received a young gorilla. You plan to teach him American Sign Language (ASL). What words would you teach him first? Name ten words that you feel would be the most important for a gorilla to learn. Analyze each and state the reason it is important.

AMERICAN SIGN LANGUAGE

	Words	Reasons
1.		
2.		
3.		
4.		
5.		
6.		
7.		
8.		
9.		
10.		

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My Gorilla

Create a realistic fictional story about "your" gorilla.

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Who's Who?

Who is Dian Fossey? Research her and write a report about her work.

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In the Wild

Use the map of Africa pictured below to identify the native habitats of Western Lowland gorillas, Eastern Lowland gorillas, and Mountain gorillas. Make a map key.

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Gorilla-Watching

The Mountain Gorilla Project, working with the Rwandan government in Africa, has developed an unusual tourism industry. Visitors to the Parc National des Volcans are allowed to sit with four *habituated gorilla troups in the wild. Fees are charged to each group of six gorilla-watchers. The community is benefiting from the money tourists spend on the fees and for gas, lodging, food, and souvenirs; however, some zoologists are worried that man might spread disease to the troops and that the tourism popularity will increase and intrude upon the lifestyles of the gorillas in the wild.

For years the Rwandan people claimed more and more park land for agricultural use. The natural land available to the gorillas decreased. As trees and brush were cleared, water spilled down the mountain sides, eroding farmland.

Efforts to educate the Rwandan people about the importance of conserving their park land for both their own benefit and that of the gorillas have taken a positive turn because of the tourists who come to observe the gentle giants of Africa. Wildlife specialists have observed a decrease in the number of gorillas killed by poachers because the Rwandan people are now becoming more protective of their unique tourist attraction and their natural habitat.

Today in Rwanda live 300 of the world's 400 mountain gorillas. Approximately 100 more live 15 miles to the north in Uganda. This was not the case between 1969 and 1981 when the number of mountain gorillas in Rwanda dove from 500 to 242, making them one of the most endangered species. Poachers killed them to sell their skulls, hands, and feet to tourists and to steal baby gorillas in order to sell them to zoos.

*habituate: to accustom, to make used to

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Gorilla-Watching

Decide whether or not you support the new African tourism industry of gorilla-watching. Give at least five reasons to defend your decision.

I _____ support gorilla-watching because:

1. _____

2. _____

3. _____

4. _____

5. _____

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Reference Section

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Bloom's Taxonomy

Six Components

KNOWLEDGE

The learner recalls information.

COMPREHENSION

The learner demonstrates an understanding of information through interpretation, explanation, and restatement of ideas.

APPLICATION

The learner demonstrates the ability to use and apply information and to relate it to new situations.

ANALYSIS

The learner analyzes information by breaking it down into component parts.

SYNTHESIS

The learner puts parts together to create something new and unique.

EVALUATION

The learner exercises judgment and weighs outcomes by applying criteria.

Benjamin Bloom. *Taxonomy of Educational Objectives. Handbook 1: Cognitive Domain.* New York: David McKay, 1956.

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Renzulli's Triad

Three Components

TYPE I · GENERAL EXPLORATORY ACTIVITIES

Activities which expose the learner to an area of study.

TYPE II · GROUP TRAINING ACTIVITIES

Differentiated instructional activities which help the learner develop processes and operations necessary to deal effectively with the content in Type I activities.

ANALYSIS
SYNTHESIS
EVALUATION

Systematic experiences in thinking/feeling processes for advanced inquiry by the learner.

PRODUCTIVE THINKING
COMMUNICATING
PREDICTING AND FORECASTING
PLANNING
DECISION-MAKING

TYPE III · INDIVIDUAL AND SMALL GROUP INVESTIGATIONS OF REAL PROBLEMS

Topics or creative/productive activities allowing the learner to emulate professionals.

IDENTIFICATION OF PROBLEMS
IMPLEMENTATION OF INVESTIGATIVE STRATEGIES
REAL PROBLEM PRODUCTIVITY

Joseph Renzulli. *The Enrichment Triad Model: A Guide for Developing Defensible Programs for the Gifted and Talented.* Creative Learning Press, 1977.

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VIDEOS

Gorillas. National Geographic Society (62 minutes).

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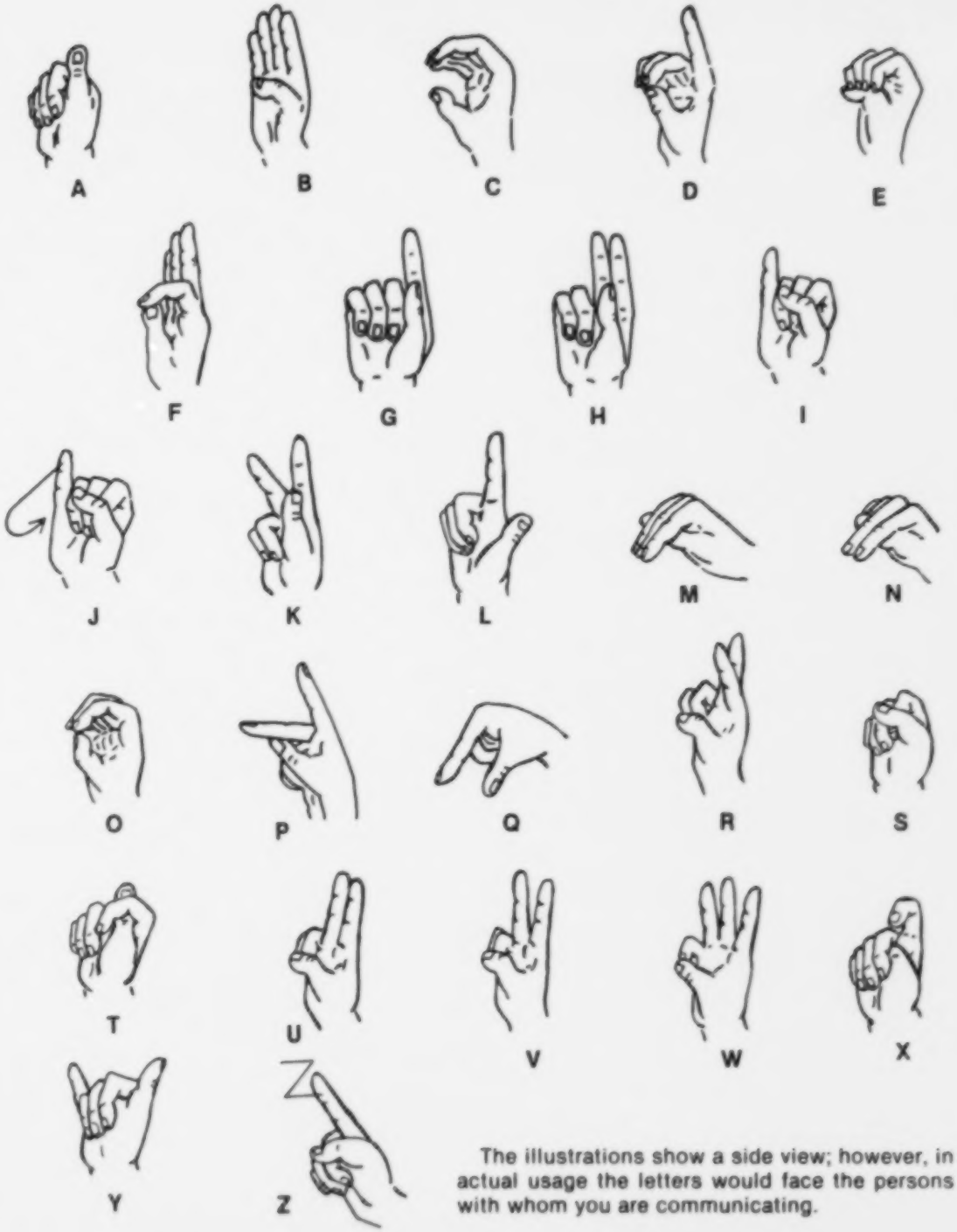
The American Manual Alphabet



The illustrations show a side view; however, in actual usage the letters would face the persons with whom you are communicating.

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